H10885

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey Hydrographic/Side Scan Sonar

Field No. WH-10-3-99

Registry No. H10885

LOCALITY

State Florida

General Locality North Atlantic Ocean

Locality Approaches to Jacksonville

1999

CHIEF OF PARTY
LCDR John W. Humphrey

NOAA FORM 77-28
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

H10885

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS: **The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.**

FIELD NUMBER:
WH-10-3-99

State: Florida

General locality: North Atlantic Ocean

Locality: Approaches to Jacksonville

Scale: 1: 10,000 Date of survey: May 20 - June 17, 1999

Instructions dated: May 4, 1999 Project Number: OPR-G354-WH-99
Vessel: NOAA Ship WHITING

Chief of Party: LCDR John W. Humphrey

Surveyed by: LCDR J.W. Humphrey, LT T. Haupt, LT L. Krepp, ENS G. Imahori, ENS M. Moser, C.D. Kemp, C. Clemens, S. Baum, U.L. Gardner, P.G. Lewit,

Soundings taken by echo sounder, hand lead-line, or pole: ODOM Echotrac DF 3200 fathometer

Graphic record scaled by: WHITING Personnel

Graphic record checked by: WHITING Personnel

Protracted by: N/A Automated plot by: ~~HP 750C~~ HP DESIGNJET 2500 CP

Verification by: ~~Hydrographic Surveys Branch~~ ATLANTIC HYDROGRAPHIC BRANCH PERSONNEL

Soundings in: Feet: X Fathoms: ___ Meters: ___ at MLW: ___ MLLW: (*):

Remarks: **Time Zone Used, 17 (UTC)**

Basic Hydrographic and 200% Side Scan Sonar

HAND WRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE DURING OFFICE PROCESSING

AWOIS/SURF 2/6/01, SJV

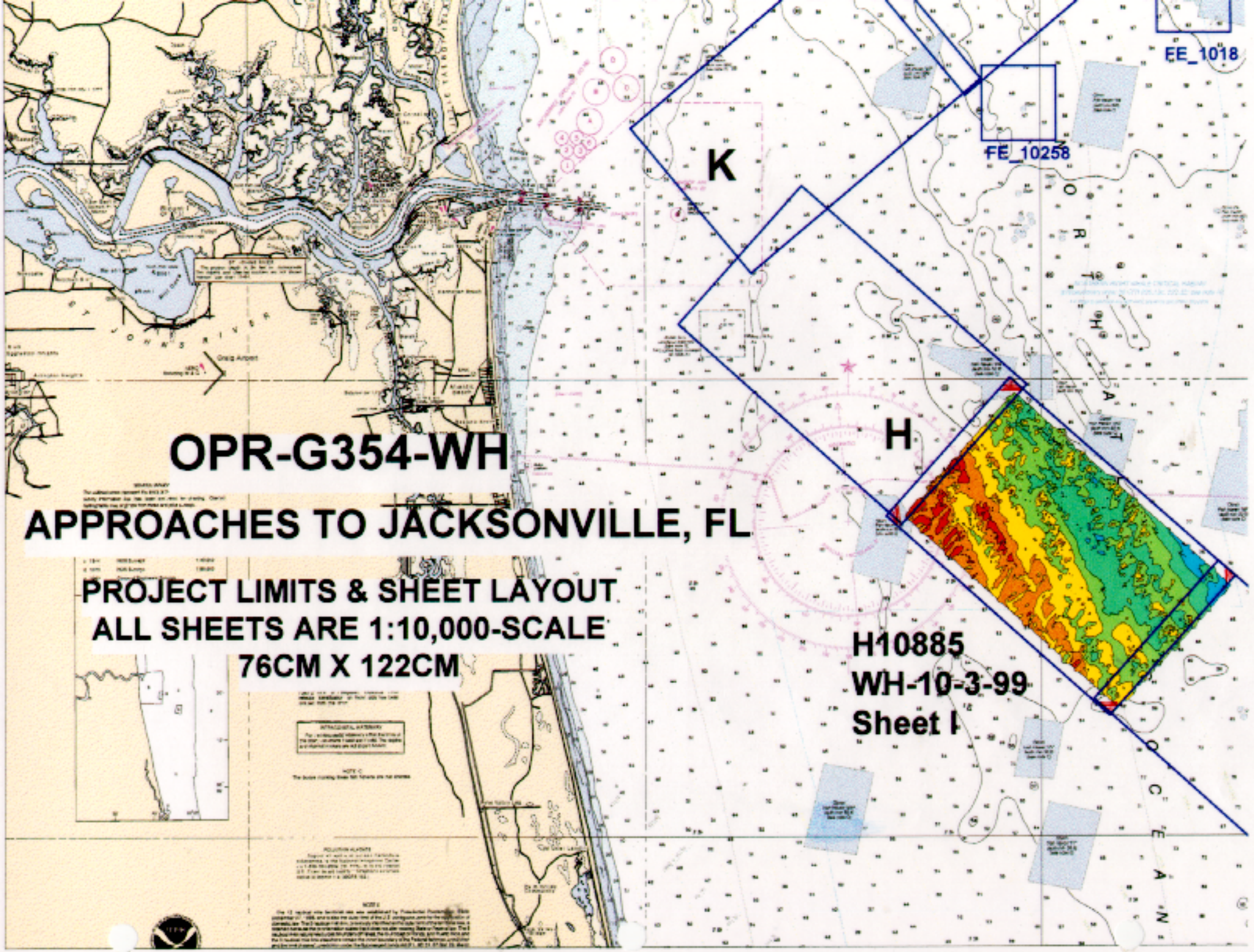
FE_1018
FE_10258
K
H
OPR-G354-WH
APPROACHES TO JACKSONVILLE, FL
PROJECT LIMITS & SHEET LAYOUT
ALL SHEETS ARE 1:10,000-SCALE
76CM X 122CM
H10885
WH-10-3-99
Sheet I

TABLE OF CONTENTS

* FILED WITH ORIGINAL FIELD RECORDS

A. PROJECT

A.1 This survey was conducted in accordance with Hydrographic Project Instructions OPR-G354-WH-99, basic hydrographic survey, Atlantic Ocean, approaches to Jacksonville.

A.2 The original instructions are dated May 4, 1999.

A.3 There have been no changes to the original project instructions dated May 4, 1999.

A.4 This Descriptive Report covers H10885 (sheet "I) of OPR-G354-WH. H10885 lies 14 nautical miles southeast of St. Johns Inlet, Florida. See section B.2 for exact survey boundaries.

A.5 Project OPR-G354-WH responds to a requests from the Jacksonville Waterway Management Council. The council is concerned that enhancement and construction of artificial reefs in the approaches to St. Johns River will reduce detail on NOS charts covering the area. This area is host to U.S. Naval vessels, commercial deep-draft vessels and tugs engaged in towing operations.

B. AREA SURVEYED

B.1 This survey covers the navigable area of the approaches to Jacksonville, Florida. It is bounded on the west by approximate longitude 081°11.5'W, and on the east by approximate longitude 081°19.8'W. The northern and southern approximate limits are latitudes 30°29.5'N and 30°24.7'N, respectively

B.2 The survey comprises one sheet with the following boundaries, starting at the NW corner and proceeding clockwise:

Sheet "I":

Latitude	Longitude
30°19'48"	081°10'36"
30°15'32"	081°05'08"
30°12'41"	081°08'09"
30°16'56"	081°13'35"

B.3 Data collection for this survey began on May 20, 1999 (DN 140). Data collection ended on June 17, 1999 (DN 168).

C. SURVEY VESSELS

C.1 The following vessels were used during this survey:

Vessel	EDP Number	Primary Function
NOAA Ship Whiting	2930 (WTEW)	Hydrography and Side Scan Operations
NOAA Launch WH-2	2932 (1014)	Hydrography and Side Scan Operations

C.2 No unusual vessel configurations were used during this survey.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

SEE ALSO THE EVALUATION REPORT

D.1 All software used for data acquisition and processing are contained on the **HYDROSOFT 8.9 and 9.4** compact disc provided by Pacific Hydrographic Branch (N/CS33). A list of software used from this disc are contained in appendix H.*

D.2 The SEABIRD SBE-19 sound velocity profile unit was utilized with **SEASOFT 3.3M** and **SEACAT 2.0** software. The program **VELOCIWIN** (Version 4.0, March 1999) was used to process the collected data and calculate velocity corrections.

E. SONAR EQUIPMENT

E.1 The WHITING and its launches conducted all side scan sonar operations using an EG&G Model 260 image-corrected side scan sonar recorder and a 100 kHz Model 272-T towfish.

E.2 The towfish was configured with a 20° beam depression, which is the normal setting and yields the optimum beam correction.

E.3 The 100 kHz frequency was used throughout the survey.

* FILED WITH ORIGINAL FIELD RECORDS

E.4.a During survey preparation, it was determined that the depth of water in the survey area would require only one range scale to cover the entire sheet. A range scale of 100 meters was used with a line spacing of 80 meters. This range scale was used to obtain complete (200%) area coverage and provide optimal contact resolution. The line spacing is in accordance with the value specified in the Field Procedures Manual (FPM). Data collected with an EPE of 30 or greater was rejected or smoothed during processing, so the maximum line spacing was never exceeded.

E.4.b Confidence checks were obtained during passes by bottom features such as sand waves, scours and substrate density changes. These features were annotated on the sonogram.

E.4.c Any holidays with a length of 200 meters or less not covered with 200% side scan sonar were covered with 100% side scan sonar. In all other areas, two hundred percent side scan coverage was completed. All side scan coverage was checked with swath plots to ensure proper overlap between adjoining lines.

E.4.d There were no degraded data returns collected during this survey.

E.4.e On the NOAA Ship WHITING, the SSS towfish was deployed from a Reuland winch using one of two armored cables in conjunction with an A-frame on the stern. A slip-ring assembly connected the armored cable to the SSS recorder. On launched 1014 the SSS towfish was deployed using a Superwinch in conjunction with an adjustable davit arm on the Kevlar cable and was connected to the recorder by a slip-ring assembly.

E.5 Significant side scan sonar contacts were investigated using side scan sonar at a reduced range scale. Single beam echosounder was also utilized for contact investigation. Development survey lines were routinely run with side scan sonar at 75-meter range scale. Diver investigations were also used. Detailed descriptions of all investigated contacts falling within the navigable area are addressed in the Item Investigation Reports found in section M. N/A

E.6 All overlap was checked and holidays identified during post processing using **HPS_MI**, a MapBasic program provided by Hydrographic Surveys Division (N/CS32) to accompany **MapInfo** software **version 5.0**.

F. SOUNDING EQUIPMENT

F.1 All hydrographic soundings were acquired using a ODOM ECHOTRAC DF3200 MKII precision survey echo sounder. The following is a list of the ECHOTRACKs used:

Vessel	EDP Number	ECHOTRACK S/N
NOAA Ship WHITING	2930 (WTEW)	9656 (A008303)
NOAA Launch WH-2	2932 (1014)	9644 (A008304)

F.2 No other sounding equipment was used.

F.3 There were no faults in sounding equipment that affected the accuracy or quality of the data.

F.4 Both high (100 kHz) and low (24 kHz) frequency sounding data were recorded during data acquisition. Only high frequency soundings were plotted.

G. CORRECTIONS TO SOUNDINGS

G.1.a Sound Velocity Correctors

A Sea-Bird SBE 19 Seacat Profiler (s/n 196093-1060)was used for sound velocity data collection. Seacat Data Quality Assurance Tests were conducted after each respective velocity cast to ensure that the unit was operating within tolerance. The Seacat Profiler was calibrated January 14, 1999 by SEA-BIRD ELECTRONICS, INC.

All sound velocity data were processed using program **VELOCIWIN** version 4.0. Computed velocity correctors were entered into the HPS sound velocity table and re-applied during processing to both high and low frequency soundings.

The following is a list of sound velocity casts performed for H10885:

Table No.	Day No.	Vessel	Position Of Cast Lat.	Long.	Days Covered	Cast Dep. (M)
12	142/141	2930	30°16'48"N	081°09'30"W	141-147	26.6
13	142/141	2932	30°16'48"N	081°09'30"W	141-147	26.6
18	~~139~~ 154	2930	30°17'18"N	081°09'30"W	155-168	29.3
22	~~139~~ 154	2932	30°17'18"N	081°09'30"W	155-168	29.3

b. Lead line Comparison

Dual Lead line comparisons for the ECHOTRAC DF 3200 MKII were conducted for WHITING during OPR-G354-WH-99 (H10885) on DN 137. The location of the check was at Mayport Naval Air Station (30°23'27"N and 081°24'40"W, 8.4 m depth). In addition, Lead line comparisons were done on launch 1014 on DN 147. The location of the check for launch 1014 was at St. John's River (30°19'12"N and 081°37'24"W). The Digital Instrument correctors had an average of 0.27 for vessel 2930 and for 1014 a high of 0.21 and a low of 0.15.

Weather and sea conditions were calm and proved ideal for performing the lead line comparison. No corrections to soundings were needed. Lead lines used were calibrated on May 17, 1999, and the calibration confirmed that the Lead line error was negligible. See the fathometer record on the above listed days for actual ECHOTRAC DF 3200 MKII readings.

c. Static Draft

The static draft corrections for launch 1014 was measured on July 28, 1993. The correctors were entered into HPS Offset Table 2. The correction for static draft for WHITING is 3.2 meters, a value measured on May 3, 1999 at Mayport Naval Station, Florida and entered into Offset Table 9. Static draft correctors were applied during data processing for each survey platform.

d. Dynamic Draft

Settlement and squat values for WHITING were determined on April 19, 1999, and were entered into HPS Offset Table 9. The settlement and squat correctors were applied to the sounding data in real time. Refer to Separate I for data records. The settlement and squat values for launch 1014 were determined March 16, 1998 and entered into offset tables 2.

e. Heave, Roll, and Pitch Correctors

Heave correctors for data acquired by WHITING were determined by a TSS Dynamic Motion Sensor DMS-05. Heave correctors were collected during data acquisition and applied to raw data during the HPTools conversion process. Serial numbers for these sensors were as follows:

Vessel	Serial Number
2930	2066
2932	2068

G.4 No correctors for diver lost depth gauges were used. See appendix E* for calibration information.

G.6 Tide Correctors

a. The tidal datum for this project are Mean Lower Low Water (MLLW). Soundings are referred to MLLW. The operating tide station at Mayport, Florida (872-0220) served as control for datum determination.

b. Zoning for this survey is consistent with the project instructions. HPTools was used for Tide table creation. HPS was used for the application of the tables. All proper zones will be applied through HPS upon receipt of smooth tides from N/OES234. See following table for tide zone used.

Zone Name	Time Corr. (Min)	Ratio Corr.	Reference
Temp 1	-30	1.15	8720220

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Smooth tides for H10885 were requested from N/OES234 in a letter dated June 30, 1999. Smooth tides for H10878 were requested from N/OES234 in a letter dated June 11, 1999. See appendix D. APPROVED TIDES AND ZONING HAVE BEEN APPLIED DURING OFFICE PROCESSING

H. Hydrographic Position Control

H.1 The horizontal datum for this survey is the North American Datum of 1983 (NAD 83). No horizontal control stations were established for this survey.

H.2 This survey was conducted using the Global Positioning System (GPS) corrected by the U.S. Coast Guard (USCG) Differential GPS reference station network. The ship used a Ashtech Sensor GPS receiver with a CSI MBX1 beacon receiver supplying USCG correctors for DGPS navigation. Ashtech receivers were automatically initialized by HSDutils and the CSI MBX1 units were preset to the appropriate station and frequency.

H.3 The geographic positions for the DGPS stations used during this survey are as follows:

Charleston, SC 298 KHz	Lat.32°45.5N Long.079°50.6 W
Cape Canaveral, FL 289 KHz	Lat.28°27.6 N Long.080°32.6 W

H.5 Accuracy requirements were met as specified by the Hydrographic Manual and Field Procedures Manual (FPM). The Horizontal Dilution of Precision (HDOP) and Expected Position Error (EPE) specified by the FPM were monitored during on-line data collection. If the positioning degraded beyond the acceptable limits while on-line, the data was either smoothed or rejected.

H.5.b DGPS performance checks for the WHITING and launch 1014 were conducted while secured in the WHITING davits using correctors from the Cape Canaveral, FL or Charleston, SC DGPS towers. Simultaneous HYPACK positions were compared between vessels. An offset in distance and azimuth was then calculated between the ship and launch systems. A summary of the DGPS performance checks is included in Appendix G.* All DGPS performance checks confirmed that the equipment was working properly.

H.6 Differential GPS Equipment:

The serial numbers of the Ashtech Sensor and CSI MBX1 receivers on the data acquisition platform are as follows:

Vessel	Device	Serial Number
2930 (WTEW)	Ashtech Sensors	700417B1203 (system A) 700417B1191 (system B)
	CSI MBXI	X-1318 (system A) X-1081 (system B)
2932 (1014)	Ashtech Sensor CSI MBXI(before 6/9/99) CSI MBXI(after 6/9/99)	700417B1055 X-1079 X-1088

H.7.a There were no unusual methods used to operate or calibrate electronic positioning equipment.

H.7.b The GPS antenna for launch 1014 (s/n X-1079) malfunctioned June 6, 1999, and was replaced with the antenna from launch 1015 (s/n X-1088) for the remainder of the survey.

H.7.c No unusual atmospheric conditions affected data quality.

H.7.d The maximum allowed HDOP value of 4.0 was never exceeded.

H.7.e No systematic errors were detected which required adjustments.

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H.7.f DGPS antenna offsets were measured on April 15, 1999 for the WHITING. Offsets and laybacks were measured using the high frequency echosounder transducer as the reference. Correctors were entered into Offset Table 9. The DGPS antennae were installed on launch 1014 on April 2, 1996, directly over the echosounder transducer. Antenna height was also measured on the same respective dates shown above, using the water line as the reference. Correctors were entered into Offset Table 2 for launch 1014. A minimum of four satellites were used during survey H10885 providing altitude unconstrained positioning.

H.7.g Offset, laybacks and height corrections for the launches aft towing boom were measured on July 28, 1993, verified on April 15, 1999, and applied by HPS during processing. Correctors were entered into Offset Table 2 for launch 1014. Offset, laybacks and height for WHITING's A-frame was measured on April 15, 1999 using the forward high frequency transducer as the reference. Correctors were entered into Offset Table 9.

These offsets, along with the cable length, towfish height, and depth of water, were used by the HPS system to compute the position of the towfish. Copies of HPS Offset Tables 2 and 9 are contained in the appendix F. *

I. SHORELINE

No shoreline is contained within the boundaries of this survey.

J. CROSSLINES

A combined total of 33.84 linear nautical miles of cross lines were acquired for this survey representing 5.88% of the 575.2 calculated linear nautical miles of mainscheme hydrography.

A plot of all main scheme soundings in feet, superimposed with cross lines, was used to conduct main scheme-to-cross line comparisons. Soundings at intersections were compared to all other soundings within a 5-mm (50-meter) radius. Based on this procedure, agreement between main scheme and cross line soundings were found to be excellent. The majority of compared soundings fell within 1 to 2 feet of each other.

* FILED WITH ORIGINAL FIELD RECORDS

K. JUNCTIONS SEE ALSO THE EVALUATION REPORT

Along its western edge, survey H-10885 junctions with survey H-10901. H-10901 is sheet "H" of OPR-G354-WH, with a scale of 1:10000. A comparison of data collected on H-10885 to that of H-10901 proved no significant differences between soundings exist. Generally agreement was excellent, with an occasional 1 to 2 foot difference.

L. COMPARISON WITH PRIOR SURVEYS SEE ALSO THE EVALUATION REPORT

A comparison with prior surveys is not required due to the 200% side scan sonar coverage.

M. ITEM INVESTIGATION REPORTS

No significant contacts were found as a result of H10885.

N. COMPARISON WITH THE CHART SEE ALSO THE EVALUATION REPORT

O.1 Four charts are affected by this survey(H10885):

Chart 11009
"Cape Hatteras to Straits of Florida"
34th Ed. 03 May, 1993
Scale: 1:1,200,000

Chart 11480
"Charleston Light to Cape Canaveral"
34th Ed. 09 May, 1998
Scale: 1:449,659

Chart 11488
"Cape Hatteras to Straits of Florida"
20th Ed. 09 March,1999
Scale: 1:~~1,200,000~~ 80,000

Chart 11490
"Approaches to St. Johns River"
15th Ed. 10 April 1999
Scale: 1:40,000

N.3 a. Overall, the soundings collected for this survey were on average slightly deeper than previously charted depths. Survey depths were converted from meters to feet and overlaid on the largest scale chart of the area using MapInfo software. CONCUR

N.3 b. In general, survey depths agreed with charted depth. Any survey depth that showed significant deviation from the charted depths were investigated with single beam echosounder. CONCUR

O. ADEQUACY OF SURVEY SEE ALSO THE EVALUATION REPORT

This survey is complete and fully adequate to supersede prior survey data within common areas.

P. AIDS TO NAVIGATION

There are no aids to navigation within the survey limits of H10885.

Q. STATISTICS

Q.1 a.	Number of Non-Rejected Positions	24029
b.	Linear Nautical Miles of Sounding Lines:	
	Nautical Miles of Side Scan Sonar	557.43
	Nautical Miles Hydrography	28.80
Q.2 a.	Square Nautical Miles of Hydrography	26.9
b.	Days of Production	16
c.	Detached Positions	0
d.	Bottom Samples	38
e.	Tide Stations	0
g.	Velocity Casts	2

R. MISCELLANEOUS SEE ALSO THE EVALUATION REPORT

Bottom samples were sent to the Smithsonian Institution as stated in the project instructions.

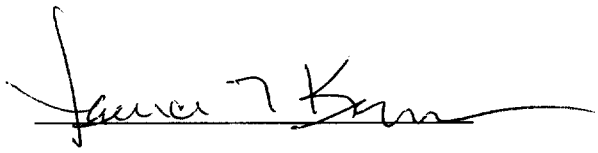
S. RECOMMENDATIONS

S.1 No further survey work is recommended.

T. REFERRAL TO REPORTS

No reports or data are referred to in this Descriptive Report that are not included with this survey.

This report and the accompanying field sheets are respectfully submitted.



Lawrence T. Krepp, LT, NOAA
Operations Officer
NOAA Ship Whiting

K. APPROVAL SHEET

REGISTRY NO. H-10885

Field operations contributing to the accomplishment of this basic hydrographic survey were conducted under my direct supervision with frequent personal checks of progress and adequacy. All field sheets and reports were reviewed in their entirety and all supporting records were checked as well.

This survey is more than adequate to supersede ALL prior surveys in common areas. This survey is considered complete and adequate for nautical charting.

John W. Humhrey, LCDR, NOAA
Commanding Officer
NOAA Ship WHITING

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: November 3, 1999

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G354-WH-99
HYDROGRAPHIC SHEET: H-10885

LOCALITY: Approaches to Jacksonville, FL- Atlantic Ocean

TIME PERIOD: May 20 - June 17, 1999

TIDE STATION USED: 872-0291 Jacksonville Beach, FL
Lat. 30° 17.0'N Lon. 81° 23.2'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.619 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: ATL853, ATL854, ATL860, ATL861 & ATL862.

Refer to attachments for zoning information.

Note : Provided time series data are tabulated in metric units (Meters), relative to MLLW and on Greenwich Mean Time.

Thomas F. Mero 11/4/99

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10885

Name on Survey	A ON CHART NO. 11480, 11488, 11490	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
FLORIDA (title)	X		X							1
JACKSONVILLE (title)	X		X							2
NORTH ATLANTIC OCEAN	X		X							3
										4
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Dennis J. Romberg

OCT 18 1999

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 61-29
(12-71)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REFERENCE NO.
N/CS 33-04-01

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check)

☐ ORDINARY MAIL ☐ AIR MAIL
☐ REGISTERED MAIL ☒ EXPRESS
☐ GBL (Give number)_____

DATE FORWARDED
01/26/2001

NUMBER OF PACKAGES
1

TO:

NOAA / National Ocean Service
Chief, Data Control Group, N/CS 3x1
SSMC3, Station 6826
1315 East-West Hwy.
Silver Spring, MD 20910-3282

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H10885

Florida
Approaches to Jacksonville

1 Descriptive Report / Evaluation Report

1 Mylar final AHB Smooth Sheet

2 Paper Composite plots for Nos chart 11490
1 Mylar H-Drawing for NOS chart 11490

1 Paper Composite plots for Nos chart 11488
1 Mylar H-Drawing for NOS chart 11488

ATTN: George Myers 301-713-2709

FROM: (Signature) Maxine Fetterly

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

Maxine Fetterly
Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510

NOAA FORM 61-29 SUPERCEDES FORM C AND GS 413 WHICH MAY BE USED.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1988 - 554-006-61309

01/26/2001

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NUMBER: H10885

NUMBER OF CONTROL STATIONS	2
NUMBER OF POSITIONS	24029
NUMBER OF SOUNDINGS	24029

	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	113.5	10/28/1999
VERIFICATION OF FIELD DATA	310.5	11/16/2000
QUALITY CONTROL CHECKS	3.0	
EVALUATION AND ANALYSIS	12.0	
FINAL INSPECTION	6.5	11/17/2000
COMPILATION	126.0	01/19/2001
TOTAL TIME	571.5	

ATLANTIC HYDROGRAPHIC BRANCH APPROVAL 11/24/2000

ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H10885 (1999)

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

Hydrographic Processing System (HPS)
MicroStation 95, version 5.05
SiteWorks, version 2.01
NADCON, version 2.10
I/RAS B, version 5.01

The smooth sheet was plotted using a Hewlett Packard DesignJet 2500CP plotter.

H. CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). The smooth sheet has been annotated with ticks showing the computed mean shift between the NAD 83 and the North American Datum of 1927 (NAD 27).

To place this survey on the NAD 27 datum, move the projection lines 0.876 seconds (26.97 meters or 2.70 mm at the scale of the survey) north in latitude and 0.729 seconds (19.50 meters or 1.95 mm at the scale of the survey) east in longitude.

K. JUNCTIONS

H10901 (1999) to the Northwest

A standard junction was effected between the present survey and survey H10901 (1999). There are no junctional surveys to the east or south. Present survey depths are in harmony with the charted hydrography.

L. COMPARISON WITH PRIOR SURVEYS

A comparison of prior surveys was not done during office processing. This is in accordance with section 4. of the

memorandum titled *Changes to Hydrographic Survey Processing*, dated May 24, 1995.

N. COMPARISON WITH CHARTS 11009 (35th Edition, Aug. 07/99)
11480 (36th Edition, Jul. 03/99)
11488 (23rd Edition, Feb. 12/00)
11490 (16th Edition, Aug. 19/00)

Hydrography

The charted hydrography originates with prior surveys and requires no further consideration. The present survey is adequate to supersede the charted hydrography in the common area.

O. ADEQUACY OF SURVEY

This is an adequate hydrographic survey. No additional work is recommended.

R. MISCELLANEOUS

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

The following NOS Charts were used for compilation of the present survey:

11488 (23rd Edition, Feb. 12/00)
11490 (16th Edition, Aug. 19/00)

Marilyn Schlüter

Marilyn L. Schlüter
Cartographic Technician
Verification of Field Data
Evaluation and Analysis

APPROVAL SHEET
H10885

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Date: 11/16/00

Maxine Fetterly
Cartographer
Atlantic Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Date: 11/24/00

Andrew L. Beaver
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch

****

Final Approval:

Approved: Samuel P. DeBow Date: March 21, 2001

Samuel P. DeBow, Jr.
Captain, NOAA
Chief, Hydrographic Surveys Division

NOAA FORM 75-96
(10-83)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H10885

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11490	12/5/00	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
11488	1/12/01	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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